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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

HUNG, YUBIN

ART UNIT PAPER NUMBER

2625

DATE MAILED: 07/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/829,960

Applicant(s)

SHEFER, MOREDECHAI

Examiner

Yubin Hung

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 8 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7,9,10 and 13-18 is/are allowed.
- 6) ☒ Claim(s) 1,2,4,6, 11 and 12 is/are rejected.
- 7) ☒ Claim(s) 3 and 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

Response to Amendment/Arguments

1. This action is in response to amendment received on April 20, 2004.
2. In view of applicant's amendment, the objections to the Oath/Declaration and Drawings have been withdrawn.
3. In view of the applicant's amendment, the 35 USC § 112 rejections of claims 1-6 have been withdrawn. The rejection of claim 8 has become moot because of its cancellation.
4. Applicant's arguments (see p. 15, lines 16-18 and p. 15, line 24 through p. 16 line 2) filed April 20, 2004 with respect to the rejection(s) of claim(s) 1, 2, 4 and 6 under 35 USC 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Shiota et al. (US 6,674,544). Detailed analysis follows.

Specification

5. Claims 3, 5, 13-16 are objected to because of the following informalities:
 - Claims 3 and 5 should be indicated as "Currently Amended"

- Claim 3: " $W\{N(i,j)\}$ " should be changed to " $(W*N)(i,j)$ " since $(W*N)$ is the resultant matrix of the convolution operation. (it is understood that the operation is on individual entries of the matrices involved, not a matrix operation)
- Claim 5: Similar to claim 3. However, it should be made clear that FS in the denominator is understood to be a matrix of the same dimension as N with every entry having the same value FS; it would be better to use a different name for this constant matrix to avoid ambiguity)
- Claims 13-16: Change the equations to conform with the format of claims 3 and 5

6. Appropriate correction is required.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 2, 4, 6, 11, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiota et al. (US 6,674,544), in view of Waxman et al. (US 5,909,244).

9. Regarding claim 1, and similarly claims 2, 4, 11 and 12, Shiota et al. discloses a method for singled color images, comprising:

- computing a light dynamic range compressed image
[Fig. 16a; Col. 31, line 10-28. Note that a table for computing a light dynamic range compressed image obviously teaches the computation of such an image. This comment applies to the next two limitations]
- computing a dark dynamic range compressed image
[Fig. 16b; Col. 31, line 10-28]
- computing a balanced dynamic range compressed image, using said light and dark dynamic range compressed images
[Fig. 16a; Col. 31, line 16-28]

Shiota et al. fails to disclose that the light and dark dynamic range compressed images are normalized and that the balanced dynamic range compressed image is computed from the normalized light and dark dynamic range compressed images. However, Waxman et al. teaches the use of a compressed, normalized dynamic range [Col. 3, line 60 – Col. 4, line 2].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Shiota et al. by normalizing the light and dark dynamic range compressed images as taught by Waxman et al. The motivation would have been to insure that they are within the dynamic range of the output device such as a monitor, as is commonly practiced in the art.

Therefore, it would have been obvious to combine Waxman et al. with Shiota et al. to obtain the invention as specified in claim 1.

10. Regarding claim 6, Shiota et al. further suggests/teaches
- the computation of said light and dark normalized dynamic range compressed images includes using look-up tables
[Fig. 13, numerals 52, 60, 62, 70, 78, 80 ; Col. 31, line 10-15]

Allowable Subject Matter

11. Claims 7, 9, 10 and 13-18 are allowed.
12. Claims 3 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
13. As allowable subject matter has been indicated, applicant's reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a).

14. The following is a statement of reasons for the indication of allowable subject matter.

15. Regarding claim 3, and similarly claims 5 and 13, although the closest prior art of Shiota et al. (US 6,674,544) teaches the computation of a light dynamic range compressed image (per claim 1), it does not carry out the computation according to Eqn. (2) of the specification.

16. Regarding claim 7, the prior art of record fails to teach or suggest, alone or in combination, a method for dynamic range compression and color reconstruction of a color image, comprising, along with other recited limitations,

- dividing said balanced dynamic range compressed norm by the original norm
- reconstructing each color by multiplying each original color by a quotient of said balanced dynamic range compressed norm divided by the original norm

Although the closest prior art of Shiota et al. (US 6,674,544), Waxman et al. (US 5,909,244) and Rahman et al. (US 5,991,456) in combination teaches the computation of a single original norm and its corresponding balanced dynamic range compressed image (per claim 1) as well as the reconstruction of each color [Rahman et al.: Fig. 2, numerals 25 & 26; Col. 6, lines 18-21]. However, they do not teach dividing said balanced dynamic range compressed norm by the original norm to generate the multiplication factor for the color reconstruction.

Conclusion

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

18. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yubin Hung whose telephone number is (703) 305-1896. The examiner can normally be reached on 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (703) 308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Yubin Hung
Patent Examiner
July 6, 2004


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